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EXAMINER

BOYLE, ROBERT C

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

04/30/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/565,050

Applicant(s)

DANIEL ET AL.

Examiner

ROBERT C. BOYLE

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 12 and 13 is/are pending in the application.
- 4a) Of the above claim(s) 9, 10, 12 and 13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date 7/21/2006
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-8, in the reply filed on April 20, 2009, is acknowledged. The traversal is on the ground(s) that the common technical feature is not present in the prior art and no evidence is present that a serious burden is present. This is not found persuasive because:
2. Engelhardt et al., U.S. Patent 6,414,214 teaches a process of post-cross-linking a water absorbent polymer by treating a cross-linked polymer derived from carboxylic acids or anhydrides with a 2-oxazolidinone derivative (column 3, lines 45-65; column 4, lines 45-67; column 8, lines 7-51). Goel et al., U.S. Patent 4,539,376 teaches using bicyclic amide acetals, as recited by claim 1, to effect cross-linking on maleic anhydride polymers, and Goel teaches treating a polymer with the bicyclic amide acetal and drying afterwards at an elevated temperature (column 1, lines 13-68; column 3, line 41-column 4, line 5).
3. Applicant argues that the bicyclic compound of formula (I) is substantially different in structure than a 2-oxazolidinone derivative described in Engelhardt. This is not persuasive because both structures have a ring structures, and a carbon bonded to both a nitrogen atom and two oxygen atoms. While 2-oxazolidinone itself has a carbonyl group, it would be obvious that a derivative of 2-oxazolidinone would not have the double bond, thus making it very similar to formula (I) of claim 1. This would lead one of ordinary skill in the art to Goel, which uses the bicyclic compound of formula (I) in

crosslinking reactions. It would have been obvious that a compound capable of crosslinking would also be able to be used in a surface crosslinked process.

4. Applicant further argues that since the International Search Report did not report lack of unity of invention, the unity of invention requirement is fulfilled and any reliance upon independence or distinctness of the invention is not relevant under the PCT.

However, the ISR is only for the purpose of identifying prior art (MPEP 1843.05) and is nonbinding on the Office (MPEP 1893.03(e)). If the examiner finds that a national stage application lacks unity of invention, the examiner may require an election (MPEP 1893.03(d)).

5. Applicant argues that no evidence of a serious burden was presented. This is not persuasive. Chapter 800 of the MPEP applies to national applications filed under 35 U.S.C. 111(a) while Chapter 1800 applies to applications entering the National Stage under 35 U.S.C. 371 (see MPEP 801 and 1893.03(c)). Requirements for restriction under Chapter 1800 do not include a serious burden (MPEP 1893.03(d)). The instant application is a National Stage application of PCT/EP04/07398, and subject to Chapter 1800 and unity of invention requirements.

6. Applicant states that the common special technical feature is present in all of claims 1-10, 12, and 13, and that examiner has not provided a proper reason why each group lacks unity with each other group specifically describing the unique special technical feature in each group. Applicant's argument is not persuasive. On page 2 of the Requirement for Restriction/Election mailed March 20, 2009, paragraph 3 describes the common technical feature found in each invention and paragraphs 4-5 recite the

reason the groups lack unity with each other: the common technical feature does not amount to a special technical feature.

7. Applicant argues that a search for applicant's process claims 1-8 would necessarily encompass a search for applicant's polymer and article claims 9-10 and 12-13. This is moot because the claims lack unity of invention.

The requirement is still deemed proper and is therefore made FINAL.

8. Claims 9-10 and 12-13 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on April 20, 2009.

Double Patenting

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claims 1-8 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 3 and 24 of copending Application No. 11/630,949. Although the conflicting claims are not identical, they are not patentably distinct from each other because both applications describe a process for postcrosslinking a water absorbing polymer involving treating a polymer with a postcrosslinker. Application 11/630,949 does not explicitly state the postcrosslinker is 1-aza-4,6-dioxabicyclo[3.3.0]octane, however, the copending application does state that the postcrosslinker is a cyclic carbamate that is reacted with a diol. It would have been obvious to one of ordinary skill in the art that such a reaction would give a bicyclic compound of the general formula (I) found in claim 1 of the instant application, of which 1-aza-4,6-dioxabicyclo[3.3.0]octane is a species.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

11. Claims 1-8 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1, 11-12 of copending Application No. 10/588,671. Although the conflicting claims are not identical, they are not patentably distinct from each other because both applications claim using a postcrosslinker to crosslink a polymer, where the postcrosslinker can be an amide acetal (see copending application: paragraphs 0026, 0038). The copending application

does not explicitly claim drying at an elevated temperature or using 1-aza-4,6-dioxabicyclo[3.3.0]octane, however it would have been obvious to one of ordinary skill in the art to dry the reaction with heat or use 1-aza-4,6-dioxabicyclo[3.3.0]octane (see copending application: paragraphs 0026, 0038). Case law holds that those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in an application defines an obvious variation of an invention claimed in the patent. In re Vogel, 422 F.2d 438, 164 USPQ 619,622 (CCPA 1970).

12. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

13. Claims 1-8 are directed to an invention not patentably distinct from claims 3 and 24 of commonly assigned Application No. 11/630,949. Specifically, see above discussion. Claims 1-8 are directed to an invention not patentably distinct from claims 1, 11-12 of commonly assigned Application No. 10/588,671. Specifically, see above discussion.

14. The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300). Commonly assigned applications 11/630,949 and 10/588,671, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the

invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

Claim Objections

15. Claim 4 is objected to because of the following informalities: improper grammar is present where claim 4 recites, "...or acrylic esters or ~~which were~~ is obtained by...", the "or" is next to the "is". Appropriate correction is required.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Engelhardt et al., U.S. Patent 6,414,214 in view of Goel et al., U.S. Patent 4,539,376.

18. As to claim 1, Engelhardt teaches a process of post-cross-linking a water absorbent polymer by treating a cross-linked polymer derived from carboxylic acids or anhydrides with a 2-oxazolidinone derivative and applying a heat treatment and drying after application of the postcrosslinker (column 3, lines 45-65; column 4, lines 45-67; column 8, lines 7-63). Engelhardt does not teach using bicyclic amide acetals as described in formula (I).

19. Goel teaches using bicyclic amide acetals, as recited by claim 1, to effect cross-linking on maleic anhydride polymers, and Goel teaches treating a polymer with the bicyclic amide acetal and drying afterwards at an elevated temperature (column 1, lines 13-68; column 3, line 41-column 4, line 5). It would have been obvious to one of ordinary skill in the art to use the bicyclic compounds of Goel with the postcrosslinking of Engelhardt because bicyclic amide acetals provide rapid and exothermic crosslinking of acrylic polymers, such as maleic anhydride copolymers, with no volatile material or foaming which can be accelerated by heating (Goel: column 2, lines 22-35) and more reactive crosslinkers makes it possible to terminate the reaction directly on obtaining a residual moisture content of a desired, specific amount (Engelhardt: column 9, lines 9-12).

20. As to claim 2, Goel teaches an alkyl group having 1-18 carbon atoms at the R1 site with hydrogen atoms off the rest of the bicyclic compound (column 1, lines 42-57).

21. As to claim 3, Goel teaches that the R1 site is a hydrogen atom (column 2, lines 44-68).

22. As to claim 4, Engelhardt teaches using monomers of acrylic acid which are graft copolymers on a substrates such as starch ethers (column 3, lines 8-65).
23. As to claims 5 and 6, Engelhardt teaches surface crosslinking using a solution of the crosslinker in methanol (column 8, lines 10-63).
24. As to claim 7, Engelhardt teaches aqueous solutions with methanol used in equal parts by weight (column 13, lines 45-67).
25. As to claim 8, the postcrosslinker is used in an amount of 0.204 wt% (column 13, lines 45-67).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT C. BOYLE whose telephone number is (571)270-7347. The examiner can normally be reached on Monday-Friday, 9:00AM-5:00PM Eastern.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571)272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. C. B./
Examiner, Art Unit 1796

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796

